

DAWBARN (R. H. M.)

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WATER AS A LOCAL ANÆSTHETIC—ITS DISCOVERY AMERICAN AND NOT GERMAN.*

TO THE EDITOR OF THE MEDICAL RECORD.

SIR : For some time past an item has been going the rounds of the press, both medical and lay, in this country, to the effect that a German surgeon, Dr. C. L. Schleich, has recently shown, by experiments upon himself and his assistants, that water is a local anaesthetic, when injected hypodermatically. This first appeared, I believe, in the *Deutsche Medizinische Zeitung*, No. 66, 1891. The MEDICAL RECORD, of September 12, 1891, among other journals, briefly mentioned it.

I have waited since then, expecting as a matter of course that some one would come forward to correct the idea that this discovery is anything new; for many physicians besides myself must know that it is an old story.

In 1885 I called on Dr. William S. Halsted, then of this city, now Surgeon-in-Chief at the Johns Hopkins Hospital in Baltimore. I was at that time making some investigations in regard to local anaesthetics, and Dr. Halsted was better informed than myself.

In the course of our conversation Dr. Halsted remarked that he had recently been using water by the hypodermatic needle as an anaesthetic for small operations, and with success; that only the day previous he had employed this method in the removal of a small tumor from a patient living on the same street in which his office was situated; and that he had found that this plan succeeds best when the water is thrown into the skin, not beneath it; in other words, that the more superficial the incision is to be, the more satisfactory will be the anaesthesia by water.

I was much interested in this statement by Dr. Halsted; and in order to satisfy my curiosity as to just how the water obtunded

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sensation, made a few experiments upon my own person. It occurred to me that possibly the anaesthesia might be mechanical only, and due to pressure by the water upon the sensory nerve-endings. In one of these experiments I tried to produce an equal or greater amount of pressure by another means, and then see whether sensation was abolished thereby. Dr. F. A. Manning, of this city, assisted me on this occasion. A hypodermatic needle was attached to the tube leading from my compressed-air receiver, which had been pumped to a 40-pound pressure. This needle was now inserted beneath the skin of my left forearm, and the tap turned on slowly. The air distended the sub-cutaneous cellular spaces and then stretched the skin to tenseness and the production of very considerable increase in circumference of the limb. We continued until the crackling feel of sub-cutaneous emphysema could be noted, on pressure, from the fingers to and including the shoulder; and the skin of the forearm felt to me almost as tight as a drum-head.

The aesthesiometer was used both just before and upon concluding this experiment; and, briefly, it was shown that while some numbness was produced, the sensation was not enough abolished to permit of a cutting operation without pain; and that water probably has an analgesic property of its own.*

As an additional evidence, that the idea of analgesia from sub-cutaneous use of water is nothing new, I quote the following passage from Bartholow's "Materia Medica," 5th edition, 1885, p. 690; subject, Aquapuncture: "It is a remarkable circumstance that aquapuncture has the power to relieve pain in a superficial nerve. So decided is this effect that there are physicians who hold that the curative effect of the hypodermatic injection of morphine is due, not to the morphine, but to the water!"

Very respectfully,

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*For further details see my article on Surgical Emphysema, in Wood's Reference Handbook, vol. ii., p. 678.

